

CD Jam

# Project Charter

STORC Dashboard

CSc 190 – Spring 2015  
3-30-2015

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# 1. INTRODUCTION

This is the Project Charter document for the STORC Dashboard Project sponsored by Dr. Michael Christensen.

This project is being undertaken by the CD Jam development team. The team is comprised of undergraduate students majoring in Computer Science at California State University, Sacramento. The team members are enrolled in a two-semester senior project course required of all undergraduate majors. Successful delivery of the desired software product will fulfill the senior project requirement for the student team members.

## PROJECT SPONSOR:

*Name:* Michael Christensen

*Title:* Assistant Vice President for Risk Management Services & Director of STORC

*Organization Name:* Sustainability Technology Optimization Research Center (STORC)

*Contact Information:*

*Phone:* (916) 278-5252

*Email:* [storc@csus.edu](mailto:storc@csus.edu)

## CD JAM DEVELOPMENT TEAM:

*Name:* Cole Culler

*Contact Information:*

*Phone:* (530) 575-7683

*Email:* [cbroski.culler@gmail.com](mailto:cbroski.culler@gmail.com)

*Name:* David Grapentine

*Contact Information:*

*Phone:* (707) 471-8749

*Email:* [davidjoaograpentine@gmail.com](mailto:davidjoaograpentine@gmail.com)

*Name:* Ashley Gregory

*Contact Information:*

*Phone:* (209) 304-1884

*Email:* [aa5gregory@gmail.com](mailto:aa5gregory@gmail.com)

*Name:* John Jones

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*Name:* Michael Smith

*Contact Information:*

*Phone:* (916) 842-8339

*Email:* [infinitelyill@gmail.com](mailto:infinitelyill@gmail.com)

## 1.1 Purpose

The purpose of the project charter is to create an understanding between the CD Jam development team and STORC, with regards to the lifecycle of the STORC Dashboard Project. This document designates the beginning of the STORC Dashboard Project and tasks CD Jam to commence work on the above stated project. In addition, this document identifies

the project sponsor, the scope of the project, perceived constraints the project presents, and CD Jam's proposal for effective team management.

## 1.2 Scope

This document introduces our project sponsor, explains the need for the STORC Dashboard Project, and establishes STORC at CSUS. The project charter will give an overview of the two semester lifecycle of STORC Dashboard Project, the structure of CD Jam, a cost analysis for the STORC Dashboard Project, and agreed upon terms and conditions between the sponsor and the CD Jam. The contents within project charter should not be interpreted as containing a complete set of agreed upon requirements for the STORC Dashboard Project, but a brief overview of the final goal of the project.

## 1.3 Definitions, Acronyms, and Abbreviations

### 1.3.1 Definitions

**Aquaponics:** A cycle between hydroponically grown plants and aquatic animals, in which the waste produced from animals supplies nutrients for plants which in turn purifies the water.

**Biodiesel:** A substitute for diesel created by a biological chemical reaction.

**Dashboard:** A collection of data laid out in an easy to read format represented in a graphical format.

**Photovoltaic Cell:** A device that delivers an electric current as a result of a chemical reaction from the rays of the sun.

**Vermiculture:** The cultivation of worms used for composting materials.

### 1.3.2 Acronyms

**CSc** – Computer Science

**CSS** – Cascading Style Sheets

**CSUS** – California State University, Sacramento

**ECS** – College of Engineering and Computer Science

**GLSL** – OpenGL Shading Language

**HTML** – Hyper Text Markup Language

**HW** - Hardware

**IT** – Information Technology

**JOGL** – Java Binding for OpenGL

**MEL** – Maya Embedded Language

**MS** – Microsoft

**MySQL** – My Structured Query Language

**OpenGL** – Open Source Graphics Language

**PHP** – Hypertext Preprocessor (scripting language)

**PMP** – Software Project Management Plan

**SDS** – Software Design Specification

**SRS** – Software Requirements

**STR** – System Test Report

**STORC** – Sustainability Technology Optimization Research Center

**STS** - Software Test Specification

**SW** – Software

### 1.3.3 Abbreviations

**CSc 190:** Computer Science Senior Project - Part 1

**CSc 191:** Computer Science Senior Project - Part 2

## 1.4 References

Buckley, Bob. *CSc 190-01 Senior Project: Part 1*. CSUS, Dec. 2014. Web. 22 February 2015. <http://athena.ecs.csus.edu/~buckley/CSc190/CSc190.html>

*STORC*. CSUS STORC. n.p. Web. 22 February 2015.  
<http://www.csus.edu/storc/about.html>

## 1.5 Overview of Contents of Document

In *Section 2: Project Sponsor and Sponsor Needs*, the project charter provides an overview of the sponsor and how the STORC Dashboard Project would benefit the sponsor's organization. *Section 3: Management Proposal* provides insight into several methods that CD Jam intends to use to manage and control the project through the STORC Dashboard Project development lifecycle. *Section 4: Conditions and Comments* discusses the terms and conditions between CD Jam and the sponsor with regards to the STORC Dashboard Project. *Section 5: Approvals* contains the signatures of CD Jam, faculty advisor, and sponsor. This section will only be signed when all parties agree on the terms and conditions of the project charter. *Appendix A: Project Team Experience* displays the resumes of each member of CD Jam. *Appendix B: Partnership Requirements Between the Team and the Sponsor* classifies the requirements that each party must follow in the software creating process and the rights each party has to one another in the form of a Bill of Rights. *Appendix C* identifies the work phases for both CSc 190 and CSc 191. This section also contains a description of each document along with a list of individuals who must read and approve the document.

## 2. PROJECT SPONSOR AND SPONSOR NEED

### 2.1 Sponsor Identification

Dr. Michael Christensen, Director of STORC and Associate Vice President for Risk Management Services, is sponsoring the STORC Dashboard Project. STORC is an interdisciplinary living laboratory. It emphasizes learning through design and build, and basic and applied research. STORC provides faculty and students a facility where sustainable technology concepts can be proven and optimized in an inherently synergistic environment. The professors hire and recruit volunteers from the student bodies within the above mentioned departments. The other important contacts include: Dr. Dudely Burton, Environmental Studies Professor at CSUS, Dr. Brook Murphy, Environmental Studies Lecturer at CSUS, and Dr. Rustin Vogt, Mechanical Engineering Assistant Professor at CSUS. We will also be in contact with student STORC employees in order to know what data needs to be obtained from each of the STORC funded projects, and how they currently record this data.

### 2.2 Sponsor's "Business"

STORC is located across the street from Riverside Hall. On the STORC site professors and students from different disciplines collaborate in order to create sustainable projects. The

STORC site is also used to teach and provide a learning model for classes at CSUS in the disciplines that are involved within a project. The main use of the work site is for small scale sustainability projects for research in order to determine how sustainable these projects would be on a larger scale. Currently, STORC has the following ongoing sustainability projects: aquaponics, biodiesel, composting, energy technology, vermiculture, and water technology. They are looking to add more projects in the near future to help further the current research being done and make CSUS the leading researchers in sustainability.

## 2.3 Description of Need

### 2.3.1 Vision

Dr. Christensen's main goal is to make STORC completely sustainable, and not have to use outside resources in order to run the site. One step to reach Dr. Christensen's goal is to have the STORC Dashboard, which would keep track of data collected from each of the projects. This data overtime will show whether the project achieves self-sustainability. This dashboard will be able to provide several important needed functions, for example: notifying users of certain situations that happen at the STORC site, gathering data from the ongoing projects, and producing easy to read viewable data. Currently STORC is using paper to keep track of the data being gathered from the site, but much of this data can be misplaced, lost, or unorganized. This makes it difficult to tell if STORC is reaching their goals, as well as limiting their ability to write grants and research papers in order to apply for funding. Without this funding they are unable to invest into new technologies and sustainability projects in order to obtain their overall goals. With the creation of the dashboard employees will be able to see live graphical and numerical data for each of the sustainability projects. This dashboard will not only keep data organized but it will also ensure that project data and knowledge does not get lost when students graduate from CSUS. The dashboard will help STORC measure the sustainability of their projects and determine if large scale versions of these projects are feasible. It will also generate public interest in STORC's mission. Allowing the public to view STORC's data could increase the amount of visitors to STORC's website, increase funding, and create new sustainable projects. This provides a better learning environment at STORC for students in different disciplines as they would be able to create and test new sustainability projects.

### 2.3.2 Goals

STORC's goal is to become more self-sustainable by using technology to record and view data. This in turn will ease the grant and research paper writing process. In order to facilitate STORC with their goal, CD Jam will create a database and a user interface for the STORC team. This will include allowing the employees to: record large amounts of data, observe data real time, notify other if emergencies occur, and calculate cost efficiency over time. In order for STORC to be as efficient as possible the interface must be customizable and user-friendly. Another one of STORC's goals is to get public recognition for the research being conducted at the site. This recognition will help STORC attain donations and funding from outside resources.

Our team's goal is to understand the entire software development lifecycle from gathering requirements from our sponsor to creating software the sponsor will enjoy

using. We hope to gain knowledge of new programming languages, and improve team building methods in order to help us grow and become ready for our professional careers. Finishing this class also allows us to obtain our Bachelors of Science for Computer Science.

### 2.3.3 Success Criteria

Once completed the STORC Dashboard will be able to allow employees and the public to see STORC's progress in sustainability. The dashboard will be able to collect data through the sensors associated with each project and allow students to manually enter data. It will also be able to display to, both students and the public this gathered data numerically and graphically through a graphical user interface. Each individual employee will be able to customize their own view allowing each user to view information that pertains to their current project within STORC. It will also provide an interface to add new projects and integrate them with the database and the dashboard. This allows the dashboard to grow and be a dynamic application instead of a static application. The dashboard should also be able to send notifications to relevant individuals in the event of a sensor alarm, malfunction, or other incidents. It will also notify others if a student finds something wrong or somebody cannot make their shift. These notifications allow STORC to have better communication, and up to date information within the organization allowing them to concentrate on the projects.

## 3. MANAGEMENT PROPOSAL

### 3.1 Work Schedule

<i>Spring 2015 Semester (CSc 190 – Senior Project Part I)</i>			
<b>Phase</b>	<b>Phase Description</b>	<b>Start Date</b>	<b>End Date</b>
Project Charter	Establish the Vision and Scope of the Project	2/22/15	3/19/15
PMP	Develop and define the Project Management Plan	3/15/15	3/29/15
Feature Wireframes	Quick sketches of the software interface and what it will look like	3/15/15	3/29/15
SRS	Elicit, analyze, specify, validate, and publish the Requirement Specifications	3/24/15	4/19/15
Requirements Meeting	Customer and Class presentation about the requirements	4/12/15	4/26/15
<i>Fall 2015 Semester (CSc 191- Senior Project Part II)</i>			
<b>Phase</b>	<b>Phase Description</b>	<b>Start Date</b>	<b>End Date</b>
Architecture Design	Design the initial system	8/31/15	9/13/15
Feature Wireframes	Quick sketches of the software and what it will look like	9/13/15	9/20/15
SDS	Design the software	9/20/15	10/4/15
Baseline Code (Design, Code, Integrate, & Test)	Implement the Software Design Specifications	10/4/15	11/1/15
STS	Develop and define the system test plan and specify all necessary test cases	10/4/15	11/1/15

System Testing & STR	Perform system testing and publish the results	10/18/15	11/1/15
UM	How to install and use the software	11/1/15	11/22/15
Delivery Meeting	Prepare materials to be delivered to the sponsor at the final product acceptance meeting	11/22/15	12/4/15

### 3.2 Resource Requirements

Our group estimates for CSc 190 each member will contribute 80 to 100 hours of work and or time. For CSc 191 we estimate each member will contribute 120 to 140 hours of work and or time. These estimates are very rough since they are based on past knowledge and resources provided from past CSc 190 and CSc 191 classes.

Scheduling of sponsor meetings will consist of emailing our sponsor to set up a block of time all members of CD Jam can meet. We expect to meet with the sponsor at least once every two week, extra meetings will be scheduled as needed. There will also be meetings with other STORC employees. These meetings will be set up on an as needed basis to collect information in order to complete the project during the time allotted.

### 3.3 Cost

Senior projects, while “expensive” in the use of team members’ time, are undertaken with no expected cost to the sponsor. Consequently, the costs estimated in this subsection are hypothetical and have been developed as examples to illustrate cost estimation concepts used in proposal writing. As such, the cost estimates do not represent costs expected to be incurred or reimbursed.

#### Estimated Work Cost:

Employee Pay						
Workers Name		Hourly Pay Wage	Number of Hours		Worker Total	
Cole Culler		\$20.25	200 – 240		\$4050 - \$4860	
David Grapentine		\$20.25	200 – 240		\$4050 - \$4860	
Ashley Gregory		\$20.25	200 – 240		\$4050 - \$4860	
John Jones		\$20.25	200 – 240		\$4050 - \$4860	
Michael Smith		\$20.25	200 - 240		\$4050 - \$4860	
Project Price						
Project Name		Price per Page	Binding Cost	Estimated Number of Pages	Number of Revision	Document Total
Project Charter		\$0.69	\$4.99	20 – 30	2 - 3	\$37.58 - \$77.07
PMP		\$0.69	\$4.99	20 – 30	2 - 3	\$37.58 - \$77.07
Feature Wireframes		\$0.69	\$0.00	5 - 10	2 - 3	\$6.90 - \$20.70
SRS		\$0.69	\$4.99	40 – 70	2 - 3	\$65.18 - \$159.87
Requirements Meeting		\$0.00	\$0.00	0	2- 3	\$0.00
Architecture Design		\$0.69	\$4.99	20 – 30	2 – 3	\$37.58 - \$77.07
Feature Wireframes		\$0.69	\$0.00	5 – 10	2 – 3	\$6.90 - \$20.70



SDS	\$0.69	\$4.99	40 – 70	2 – 3	\$65.18 - \$159.87
Baseline Code	\$0.00	\$0.00	0	Unlimited	\$0.00
STS	\$0.69	\$4.99	20 – 30	2 -3	\$37.58 - \$77.07
System Testing and STR	\$0.69	\$4.99	20 – 30	2 - 3	\$37.58 - \$77.07
UM	\$0.69	\$4.99	30 – 40	2 - 3	\$51.38 - \$97.77
Delivery Meeting	\$0.00	\$0.00	0	2 – 3	\$0.00
Miscellaneous Items					
Item			Quantity		Price
CD			1 - 4		\$2.00
Estimation Total:					\$20635.44 – \$25146.26

### 3.4 Organization and Staff

The members of CD Jam consist of Cole Culler, David Grapentine, Ashley Gregory, John Jones, and Michael Smith.

For CSc 190 Ashley is Team Lead for the group during this part of the senior project. When Ashley is unable to lead for some unforeseen reason David is pack up team lead. John is in charge of taking notes in all meetings that CD Jam has and posting them. Michael is in charge of looking over, editing time sheets, and printing them out for each week. David is responsible for editing all documents before submission dates and keeping our binder up to date. When working on documents all team members are expected to pull their weight. When documents are finished Ashley, David, and John will overlook them a correct any errors they might see.

For CSc 191 David will be the team lead for this part of the senior project. When David is unable to lead for some unforeseen reason Ashley is pack up team lead John is in charge of taking notes in all meetings that CD Jam has and posting them. Michael is in charge of looking over, editing time sheets, and printing them out for each week. Ashley is responsible for editing all documents before submission dates and keeping our binder up to date. All documents and code the team members are expected to pull their weight on each project. When documents are finished Ashley, David, and John will overlook them a correct any errors they might see. As for testing the product Cole and Michael and report back to the team any bugs they have found.

### 3.5 Quality Assurance

There are two modes of quality assurance the CD Jam will implements Documents and Code.

When it comes to writing the documents the task will be split up among the members. In order to make it feel like only one person wrote it we have a group of editors which will read all documents before submitted to the faculty advisor. This group will be in charge of making sure it is meeting the documents goal, make sure all information is accurate, proofreading, making sure it flows, and taking care of any punctuation and grammar errors. Once all members of the editor team has approved the document it will then be sent to the

faculty who will also check it over. Once the faculty has looked over the document they will either approve it or deny approval. If the document has been denied approval CD Jam will make all changes that need to happen in order to get it to the standard that the faculty advisor wants in order for them to make the approval on and start the cycle from the beginning. Once the faculty does approve of it depending on the document the sponsor will then either approve or deny approval on the document. If the document is denied approval then CD Jam will make the necessary changes and it will go back through its life cycle. Once the document has been approved by sponsor it is then done.

As for when CD Jam gets to the coding part of the project the team will be working on the same part at the same time in order to help each other write the code and to make sure that all parts of the code can connect and work correctly together. When working on this code all members are required to put comments in their code and put their name on the parts they wrote so if any questions are raised we know who to go to. Once the code is working there will be a testing period for that code. In order to test the project we will make a list of common uses of this part of the project and then possible outlier test cases that could possibly cause the program to crash. If it fails on any of these test cases we will go and fix those issues once all test cases have gone through on that round. Once they are fixed it will go through the same testing until all tests have been passed. Once they are past we will ask a STORC student employee to test the product and play with it while a team member sits with them and writes down what they did during the testing session. If any part breaks CD Jam will fix it and the programming cycle will start over again. If it does not break during the session we will consider that part done and move to the next part of the program.

### 3.6 Change Control Process

In order to process any changes or additions that need to be made to the process we shall follow the following change control process.

1. Document what the change or addition is to the project
2. Evaluate the following with the change or addition for the project in a document
  - a. Who was the change proposed by
  - b. Is it an addition, subtraction, or change to already requirements in the project
  - c. Does the team need to have a meeting with the sponsor about this
  - d. The type of change (there will be a list of categories we will have)
  - e. What will be its effect on the project
  - f. Does this affect any deadlines we have if so how will it
  - g. Is this a reasonable change or not
  - h. Any other findings that may be useful for the change
3. Have a team meeting to discuss the step 2 findings
  - a. In this meeting it will be voted on whether this is feasible
4. If the team feels we need to voice our opinion or need to let the sponsor know we shall set up a meeting
5. If the change is passed it will be added to the list of requirements and note that it was added on this date and why
  - a. If it does not pass then we will keep the document on it and explain why it did not pass along with the date this was agreed upon

## 4. CONDITIONS AND COMMENTS

### 4.1 Assumptions and Constraints

Both the team and sponsor are assuming that the completed project will be computer code written in a standard language that can be read and understood by a third party familiar with that language. e.g. HTML, javascript, C#, MySQL, etc. The team will not be writing or developing code in a completely new language. This will allow for maintenance and portability by a third party after the team has delivered the product. It is assumed by both the team and sponsor that the product's computer code will be written in such a way that it can be understood and maintained by a third party after delivery of the product. It is also assumed that the final product will not require detailed technical knowledge or expertise on the part of the user. Since the final product will take the form of a web interface, it should be simple and easy to use for STORC employees.

Some project constraints pertain to the setup and project scope. Since the project requires data-gathering and processing from sensors that will be monitoring the various projects that STORC is researching, this infrastructure must be complete before work begins on the design stage. If the sensors and other control equipment have not been set up, a system designed to gather, process, and display information in an accessible and user-friendly way cannot be implemented. Both the team and sponsor agree that the scope will be limited to a system designed to collect, view, store, and manage data from various sources related to the current projects at STORC.

### 4.2 Limiting Conditions

#### 4.2.1 Factors Associated with the Academic Nature of the Project

##### 4.2.1.1 *General Disclaimer*

All students majoring in Computer Science at CSUS are required to complete a two semester, senior project. The project proposed, STORC Dashboard, is expected to fulfill this requirement for the project team of CD Jam. While the intent of the team is to deliver a high quality product that meets the sponsor's expectations, neither the students, faculty adviser, or CSUS can be held responsible for any errors in the delivered software product, failure to meet any of the specified requirements, or failure to deliver the software.

Furthermore, due to the academic nature of the experience and its requirement for graduation, students cannot be paid for the work associated with the project.

##### 4.2.1.2 *Support Limitations*

Upon completion of the project the members of "CD Jam" nor any other representative of CSUS are no longer responsible for software maintenance or additional support upon project acceptance and completion. Once senior project has been completed the work from the project cannot be performed past the set completion dates for CSc 191.

##### 4.2.1.3 *Ownership of the Product*

Upon completion of the STORC Dashboard project the members of "CD Jam" maintain nominal ownership of the product along with STORC. STORC will receive all the specified documentation along with the software, including both

source and executable code. The Computer Science Department at CSUS reserves the right to use the documentation, product, and any other items pertaining to the project as examples of student work. All work completed by “CD Jam” is for academic credit towards senior project and is not intended to be considered as work by the Computer Science Department at CSUS or STORC where some form of compensation is expected.

#### 4.2.2 Other Disclaimers

There are no other disclaimers associated with the STORC Dashboard Project.

## 5. APPROVALS

By signing you agree that all conditions and commitments to the project are accurate to the best of your knowledge. I certify that the information in this Project Charter is correct and the senior project group *CD Jam* can continue on with the design of the project. I also certify that I will follow and provide all needing requirements stated in this document and that I am willing to follow through with all conditions.

### **CD Jam Team members:**

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X

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Cole Culler

X

---

David Grapentine

X

---

Ashley Gregory  
Project Lead

X

---

John Jones

X

---

Michael Smith

### **Faculty Advisor:**

---

X

---

Ying Jin  
Faculty Advisor

### **STORC Dashboard Sponsor:**

---

X

---

Michael Christensen  
Sponsor

## APPENDIX A. Project Team Experience

### Cole Fritz Culler

(530)-575-7683 □ cbroski.culler@gmail.com

**OBJECTIVE:** To provide information about my qualifications to sponsor and clients of the STORC Dashboard, our faculty advisor, the rest of the CD Jam team, and to the readers

#### EDUCATION

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In Progress: Bachelor of Science, Computer Science - CSUS – Major GPA 3.02

#### *Related Courses:*

3D Computer Modeling	Beginning Electronic Art
Object-Oriented Computer	Graphics Programming
Advanced Computer Graphics	Computer Game Architecture
Honors Public Speaking	Programming Logic
Computer Organization	Computer Software Engineering
Calculus I-II-III	

#### SKILLS AND KNOWLEDGE

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##### Programming Languages:

Java, JavaScript, MEL Scripting, Python, C#, HTML, Unix Shell Scripting, OpenGL Shading

##### Software Applications:

Maya, ZBrush, Photoshop, Unity, Blender, After Effects, Final Cut Pro, MS Office, Remote Desktop, Visual Studio

#### WORK EXPERIENCE

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Computer Advisor, Apple Inc. Elk Grove, CA 05/2011 - 12/2014

- Customer telecommunication advisor across the U.S. In charge of problem solving for a variety of CPU related issues, including: network connectivity, hardware malfunction, Mac OS X software issues, sales and general how to questions.
- Part time Senior Advisor with Apple. Responsibilities included assisting and coaching team members with difficult and irate customers. Mentored employees on how to resolve complex and unique issues not normally encountered.

Regional Occupation Program: Nevada County Television, Grass Valley, CA 2008

- Directed and edited a public service video announcement for Fire Evacuation and Safety
- Switchboard and camera operator for local television programs
- Post editing using Final Cut Pro

# David Grapentine

(707) 471-8749 | davidjoagrapentine@gmail.com

**OBJECTIVE:** To provide information about my qualifications to sponsor and clients of the STORC Dashboard, our faculty advisor, the rest of the CD Jam team, and to the readers

## EDUCATION

*In progress: BS, Computer Science, Concentration in Game Engineering* • CSU, Sacramento • GPA: 3.3 • December 2015

### *Related Courses:*

Software Engineering	Object-Oriented Computer Graphics Programming
Database Management & File Organization	Programming Concepts & Methodology
Data Structures and Algorithm Analysis	Discrete Structures
Introduction to Systems Programming in Unix	3D Computer Modeling
Advanced Computer Graphics	Computer Theory & Programming Languages
Computer Organization	Computer Network & Internet
Computer Architecture	Operating System Principles*
Intelligent Systems*	Computer Game Architecture and Implementation*

\*Spring 2015

## COMPUTER SKILLS

**Programming Languages:** Java • HTML • MySQL • C • JOGL • GLSL • OpenGL

**Systems:** Windows • OS X • Unix

**Software:** Adobe Photoshop • Adobe InDesign • Maya • MS Office • Adobe Acrobat Pro • iMovie • iWorks • Garageband

## PROJECTS

### *Computer Software Engineering Project*

Developed a front end and back end application to process accounts for the College of Engineering and Computer Science IT department. This four-month project involved the entire software engineering life cycle. As team leader keep all team members updated and ensured that project phases were completed on schedule. The project included Software Requirement Specification (SRS), Software Design Document (SDD). Personally responsible for coding the back end of the application.

## WORK EXPERIENCE

<b>IT Consulting Assistant</b>	<b>ECS Computing Services, CSUS</b>	2012 – Present
Provide IT support • Install and troubleshoot SW and HW problems • Train new lab assistants in how to do their duties within their daily job • Maintain computer labs		
<b>Youth Director/Coach</b>	<b>Central Solano United States Bowling Congress</b>	2008 - 2012

## PROFESSIONAL ACTIVITIES

<b>Vice President</b>	<b>SWE chapter at CSUS</b>	2014 – Present
<b>Member</b>	<b>ACM chapter at CSUS</b>	2013 – Present
<b>Member</b>	<b>United States Bowling Congress</b>	2008 – Present
<b>Participant</b>	<b>ACM ICPC Programming Contest</b>	2011 – 2014
<b>Recipient</b>	<b>Dean's Honor List</b>	2010 - Present

## SPOKEN LANGUAGES

*English • Portuguese (Conversational) • Spanish (Conversational)*

# Ashley Gregory

(209) 304-1884 • aa5gregory@gmail.com

**OBJECTIVE:** To provide information about my qualifications to sponsor and clients of the STORC Dashboard, our faculty advisor, the rest of the CD Jam team, and to the readers

## EDUCATION

*In progress: BS, Computer Science, Concentration in Game Engineering* • CSU, Sacramento • GPA: 3.3 • December 2015

### *Related Courses:*

Software Engineering	Object-Oriented Computer Graphics Programming
Database Management & File Organization	Programming Concepts & Methodology
Data Structures and Algorithm Analysis	Discrete Structures
Introduction to Systems Programming in Unix	3D Computer Modeling
Advanced Computer Graphics	Computer Theory & Programming Languages
Computer Organization	Computer Network & Internet
Computer Architecture	Operating System Principles*
Intelligent Systems*	Computer Game Architecture and Implementation*

\*Spring 2015

## COMPUTER SKILLS

**Programming Languages:** Java • HTML • C# • PHP • MySQL • C • JOGL • GLSL • OpenGL

**Systems:** Windows • OS X • Unix

**Software:** Adobe Photoshop • Visual Studio • Maya • MS Office • Adobe Acrobat Pro • iMovie • iWorks • Garageband

## PROJECTS

### *Computer Software Engineering Project*

Developed a front end and back end application to process accounts for the College of Engineering and Computer Science IT department. This four-month project involved the entire software engineering life cycle. As team leader keep all team members updated and ensured that project phases were completed on schedule. The project included Software Requirement Specification (SRS), Software Design Document (SDD). Personally responsible for coding the front end of the application.

## WORK EXPERIENCE

<b>Data Center Intern</b>	<b>Intel Corporation</b>	01/2015 - Present
Write documentation for customers • Update and create websites, applications, and scripts • Create Windows VM for customers • Provide technician work in the data center		
<b>IT Consulting Assistant</b>	<b>ECS Computing Services, CSUS</b>	08/2012 – 12/2014
Provide IT support • Install and troubleshoot SW and HW problems • Train new lab assistants in how to do their duties within their daily job • Create documentation for general applications and resources		
<b>Computer Science Tutor</b>	<b>Computer Science Department, CSUS</b>	09/2013 – 12/2013
<b>Software Engineer Intern</b>	<b>FMC Technologies Schilling Robotics</b>	05/2013 – 08/2013
Created WPF applications that allowed the user to create a dynamic image over live video and load data collected in the field to create a graph • Designed the intern shirts and collected the information for each individual for the shirt order		
<b>Grader</b>	<b>Art History Department, CSUS</b>	2011
Graded Art 1A exams and organized scores into grade book • Communicated through E-mail, cell phone, and in-person • Tutored and conducted class during professor's absent		
<b>Tutor</b>	<b>Association for Computing Machinery (ACM)</b>	8/2012 – Present
<b>Lecturer</b>	<b>CSc 60 - Introduction to Systems Programming in Unix</b>	2/2014
<b>Volunteer</b>	<b>Society of Women Engineers (SWE) Women Shadow Day</b>	2012 -2014

## PROFESSIONAL ACTIVITIES

<b>President</b>	<b>SWE chapter at CSUS</b>	2014 - Present
<b>Industry Liaison</b>	<b>ACM chapter at CSUS</b>	2012 - Present
<b>Participant</b>	<b>IBM Master the Mainframe Contest</b>	2011 - 2014
<b>Participant</b>	<b>ACM ICPC Programming Contest</b>	2011 - 2014



# John Jones

(916) 475-8460 | [felixequal@gmail.com](mailto:felixequal@gmail.com)

**OBJECTIVE:** To provide information about my qualifications to sponsor and clients of the STORC Dashboard, our faculty advisor, the rest of the CD Jam team, and to the readers

## EDUCATION

*In progress: BS, Computer Science • CSU, Sacramento • December 2015*

### **Related Courses:**

Object-Oriented Computer Graphics Programming	3D Computer Modeling
Advanced Computer Graphics	Software Engineering
Data Structures and Algorithm Analysis	Programming Concepts & Methodology
Database Management & File Organization	Introduction to Systems Programming in Unix
Computer Theory & Programming Languages	Computer Organization
Computer Network & Internet	Computer Architecture
Discrete Structures	Operating System Principles*
Computer Game Architecture and Implementation*	Intelligent Systems*

*\*Spring 2015*

## COMPUTER SKILLS

**Programming Languages:** Java • C • Python • PHP • SQL • HTML • CSS • Powershell • Scheme • Verilog • CLSL

**Systems:** Windows • Unix

**Software:** Eclipse IDE • Altiris • VMWare • Microsoft Office

## PROJECTS

### **E.C.S Problem Report Management Website**

As a small team, competed against teams to re-design and implement ECS department IT ticket system website. Learned and taught PHP, MySQL, and CSS to my team. Worked with client to generate specification and design documentation to meet client needs. Designed and implemented front-end to adhere to required style guidelines. Implemented back-end to integrate into existing infrastructure using PHP and MySQL.

### **Python HTTP Server**

Implemented CSUS class project to develop an HTTP Server in Python from the ground up without the use of built-in Python libraries. Implementation required socket programming, byte-stream handling, and HTTP packet parsing. Implemented GET, HEAD, and POST functionality.

### **Python E-Mail Client**

Implemented CSUS class project to develop an email client in Python from the ground up including SSL authentication, SMTP protocol handling, and socket programming.

### **Java-Based 2D Graphics Computer Game**

Completed a semester long project to create a 2D Java Swing based computer game. This required the use of key object-oriented development concepts such as polymorphism, encapsulation, information-hiding, inheritance, classes, and interfaces. The project required the use of many design patterns including the Model-View-Controller, Observer, Proxy, Command, Factory, and Iterator patterns.

## WORK EXPERIENCE

**ECS I.T. System Support**      **College of Engineering and Computer Science, CSUS**      *August 2012 – present*

Performed varied, wide-ranging I.T. Support as part of a small team of dedicated staff and student assistants.

Responsibilities include: Website Maintenance and development • Powershell Scripting • Unix System Administration • Remote Software Deployment • Software License Management • Network Infrastructure Deployment and Management • Active Directory • Windows Group Policy • Laptop and Desktop Hardware Repair • Comprehensive HOW-TO Documentation • Windows System Optimization (Windows Performance Analyzer, Windows Services)

**Medical Transporter First Responder Emergency Medical Services, Rancho Cordova, CA 2006 – 2012**

Provided patient transfer between care facilities, hospitals, doctor offices, and residences. This included being able to communicate effectively with medical facility administration and staff, following and verifying correct HIPAA medical documentation practices, and providing first responder medical assistance (CPR/First Aid) in advance of EMT/Paramedic assistance.

## COMPETITIONS

**Participant**      **ACM ICPC Programming Contest**      2011 – 2014

# Michael Smith

(916) 842-8339 | [infinitelyill@gmail.com](mailto:infinitelyill@gmail.com)

**OBJECTIVE:** To provide information about my qualifications to sponsor and clients of the STORC Dashboard, our faculty advisor, the rest of the CD Jam team, and to the readers

## EDUCATION

*In progress: BS, Computer Science* • CSU, Sacramento • December 2015

### *Related Courses:*

3D Computer Modeling Object-Oriented	Computer Graphics Programming
Operating System Principles	Software Engineering
Data Structures and Algorithm Analysis	Programming Concepts & Methodology
Database Management & File Organization	Introduction to Systems Programming in Unix
Computer Organization	Computer Architecture
Computer Network & Internet	Software Engineering Project Management*
Discrete Structures	

\* Spring 2015

## COMPUTER SKILLS

**Programming Languages:** Java • C • HTML • PHP • Scheme

**Systems:** Windows • Linux • Unix

**Software:** Eclipse • Adobe Photoshop • Maya • Microsoft Office

## PROJECTS

### *Python HTTP Server*

Implemented class project to develop an HTTP server in Python from the ground up without the use of built in Python libraries. Implementation required socket programming, byte stream handling, and HTTP packet parsing. Implemented GET, HEAD, POST functionality.

### *Python E-mail Client*

Implemented class project to develop an email client in Python from the ground up including SSL authentication, SMTP protocol handling, and socket programming.

### *Java 2D Graphics Computer Game*

Completed a semester long project to create a 2D java based computer game. It required the use of key object oriented development concepts such as polymorphism, encapsulation, information hiding, inheritance, classes, and interfaces. The project required the use of design patterns including MVC, Observer, Proxy, Command, and Iterator patterns.

## WORK EXPERIENCE

<i>Customer Service Representative</i>	<b>Cutting Edge Supply, Sacramento CA</b>	2005 – 2007
<i>Customer Service Representative</i>	<b>Beeline Glass, Sacramento CA</b>	2007 - 2011

## APPENDIX B. Partnership Requirements Between Team and Sponsor

### B.1 Requirements Bill of Rights for Software Customers

The project sponsor has the right to:

1. Expect the team to speak your language
2. Expect the team to learn about your business and your objectives for the system.
3. Expect the team to structure the requirements information you present into a software requirements specification.
4. Have the team explain requirements work products.
5. Expect the team to treat you with respect and to maintain a collaborative and professional attitude.
6. Have the team present ideas and alternatives both for your requirements and for implementation.
7. Describe characteristics that will make the product easy and enjoyable to use.
8. Be presented with opportunities to adjust your requirements to permit reuse of existing software components.
9. Be given good-faith estimates of the costs, impacts, and trade-offs when you request a requirement change.
10. Receive a system that meets your functional and quality needs, to the extent that those needs have been communicated to the team and agreed upon.

### B.2 Requirements Bill of Responsibilities for Software Customers

The project sponsor has the responsibility to:

1. Educate team about your business and define jargon.
2. Spend the time to provide requirements, clarify them, and iteratively flesh them out.
3. Be specific and precise about the system's requirements.
4. Make timely decisions about requirements when requested to do so.
5. Respect developers' assessments of scope and feasibility.
6. Set priorities for individual requirements, system features, or use cases.
7. Review requirements documents and prototypes.
8. Promptly communicate changes to the product's requirements.
9. Follow the team's defined requirements change process.
10. Respect the requirements engineering processes the team uses

## APPENDIX C. Phases of Work for both CSc 190 and CSc 191

The following table identifies each of the phases of work that are to be completed in developing the software for the team's project sponsor. Associated with each phase is a baseline deliverable indicated in the second column. The last column indicates those deliverables that must be reviewed and approved by the sponsor. The team's faculty adviser is responsible for reviewing and approving the final draft of each baseline document. In the case where the sponsor must also approve the document, the faculty advisor's approval is necessary before submitting the document to the sponsor.

<b>PROJECT PHASE</b>	<b>PHASE DELIVERABLE</b>	<b>APPROVALS *</b>
Establish the Vision and Scope of the Project	Project Charter	Sponsor
Develop and define the project management plan	Project Management Plan	
Elicit, analyze, specify, validate, and publish the requirement specifications	Software Requirements Specification	Sponsor
Design the software	Software Design Specification	
Implement the software design specifications	The Software	
Develop and define the system test plan and specify all necessary test cases	System Test Plan and Test Cases	
Perform system testing and publish the results	Testing and Software Test Report	
Prepare materials to be delivered to the sponsor at the final product acceptance meeting	Software Delivery Materials (includes the User Manual and Delivery CD)	Sponsor
Time spent developing the skills and knowledge necessary to complete the project	Learning (all phases)	NA
Time spent by the team and its members in the management and control of the project	Project Management (entire project)	NA

\* All final documents must be approved by the team's faculty adviser. For those requiring approval by the sponsor, the project adviser must first approve the document before it is provided to the sponsor.

The standard for expected hours of out of class course work for each student is a minimum of three (3) hours per week. Both CSc 190 and CSc 191 are two unit courses, consequently this standard translates to a minimum of out of class work time per team member of six hours per week. For each fifteen week course, each team member is expected to work a minimum of 90 hours. Although there is no final in either course, the hours of work that a student would be expected to accumulate in preparation for both midterms and final exams should be added to this minimum work requirement.

Each senior project varies in its scope and complexity and therefore in the time required of the development team. If each team member spends a minimum of 200 hours working on the project (100 hours for CSc 190 and CSc 191), a five member team would spend a minimum of 1,000 hours. The following table lists the estimated percentage of work associated with each phase. These percentages represent averages from previous projects.

<b>PROJECT PHASE</b>	<b>EST % OF WORK</b>
Establish the Vision and Scope of the Project	4%
Develop and define the project management plan	4%
Elicit, analyze, verify and publish the requirement specifications	14%
Design the software	9%
Implement the software design specifications	21%
Develop and define the system test plan and specify all necessary test cases	7%
Perform system testing and publish the results	2%
Prepare materials to be delivered to the sponsor at the final product acceptance meeting	2%
Time spent developing the skills and knowledge necessary to complete the project	13%
Time spent by the team and its members in the management and control of the project	24%
<b>TOTAL</b>	<b>100%</b>